

Application for Pipeline Right-of-Way Lease

Kenai Kachemak Pipeline, Revision 2

1. Date of Application: May 10, 2002

2. Name and Address of Applicants:

Union Oil Company of California, dba Unocal Alaska (UNOCAL), and Marathon Oil Company (Marathon) are currently conducting exploration/drilling activities on the Lower Kenai Peninsula (Figure 1 and Figure 2). The exploration/drilling is being conducted in the Kasilof Prospect and Ninilchik Unit. The well locations and testing programs are targeted to prove the extent of reserves. The respective owners will evaluate the potential for an exploration site to become a development site as exploration data becomes available. Marathon is anticipating to proceed with development of the G. Oskoloff Pad in the Ninilchik Unit. A natural gas transmission line is required for UNOCAL and Marathon to ship the potential natural gas reserves from the development sites to market.

The proposed Kenai-Kachemak Pipeline Project will provide for a transportation system to ship the potential natural gas reserves from the development sites to the Kenai Peninsula and other locations, such as Anchorage. Marathon and GUT LLC, a wholly owned subsidiary of UNOCAL, have formed a limited liability corporation (LLC) to construct a natural gas transmission pipeline identified as the Kenai-Kachemak Pipeline (KKPL). The corporation is identified as the Kenai-Kachemak Pipeline, LLC (KKPL LLC). The addresses for the parent companies are:

GUT LLC
One Sugar Creek Place
14141 Southwest Freeway
Sugarland, Texas 77478

Marathon Oil Company
3201 C Street
P.O. Box 196168-6168
Anchorage, Alaska 99519-6168

NORSTAR Pipeline Company has been authorized by the KKPL LLC to be their agent for the permitting and engineering phase of the project. The letter assigning NORSTAR as the agent for KKPL LLC is included as Appendix A. The addresses for NORSTAR is:

NORSTAR Pipeline Company
P.O. Box 190288
Anchorage, Alaska 99519-0288

Part I. Proposed Route

The KKPL is located on the west side of the Alaska Kenai Peninsula. Natural gas will flow in the proposed pipeline in a generally south-north direction between Anchor Point and the Kenai Gas Field near Kenai. The proposed pipeline will connect new gas discoveries to existing Alaska Pipeline Company (APC) and Marathon Cook Inlet gas pipeline infrastructure.

The transmission line will be approximately 32 miles long and will consist of buried steel pipe with a nominal diameter up to 16 inches. The main line of the proposed pipeline will extend from the APC 500 Master Meter Building (located east of Kalifonsky¹ Beach Road) to approximately Milepost 128 of the Sterling Highway. The termination is just east of MOC's Susan Dionne pad in the Ninilchik Unit. The main line will provide tie-ins for future potential lines from current exploration sites. Tie-ins to the main line from distribution facilities are planned to distribute natural gas to the communities in the vicinity of the KKPL.

The proposed route generally follows the lands conveyed to the State of Alaska, herein referred to as the Alaska Department of Transportation and Public Facilities (ADOT/PF) right-of-way (ROW)² for Kalifonsky Beach Road and the Sterling Highway. However, the pipeline route does deviate from ADOT/PF ROW in some locations to optimize crossing the Kasilof River. A 20-foot ROW will be leased for operation of the pipeline. The pressure reducing stations and pig launching and receiving piping will be in the 20-foot operational ROW.

Pipeline route selection was affected by several factors including avoidance of natural and man-made obstacles, land ownership and land interests, river and stream crossings, environmental impacts, and cost. Resources such as aerial photography, satellite imagery, USGS maps, Kenai Peninsula Borough maps, and on-the-ground inspections were used to evaluate alternative crossings and routes. Section line easements and existing ROWs for roads or utilities were utilized extensively to reduce the amount of private lands impacted by the pipeline and to limit the development of new ROWs.

The project will not only provide economic benefits to the KKPL LLC, but the Kenai Peninsula Borough and the State of Alaska will benefit through payment of royalty, severance, and income and property taxes. The Kenai-Kachemak project will also result in capital expenditures being distributed into the local economy.

The scope of this project is the transportation system for the natural gas. The exploration, development and distribution of the natural gas will be separate projects by Marathon, UNOCAL or ENSTAR Natural Gas Company. The main line of the transmission line begins in the ADOT/PF ROW at approximately Milepost 128 of the Sterling Highway. The beginning of the transmission line from the G. Oskoloff Pad occurs at the

¹ Kalifonsky will be the spelling used throughout this document; Kalifonsky is an alternate spelling.

² The lands conveyed to ADOT/PF will be referred to in this document as ADOT/PF ROW.

intersection of the Unit Boundary for the Gas Lease and the ADOT/PF ROW. The project scope ends at the following distribution points from the Kenai-Kachemak Pipeline:

- At the flange upstream of the flow meter in the Marathon 400 Master Meter Building.
- At the flange upstream of the flow meter in the APL 500 Master Meter Building.
- At the flange upstream of the flow metering stations for the transfer of the custody from the KKPL to each of the APC distribution points along the route.

3. Point of Origin:

The main line of the transmission line begins in the ADOT/PF ROW at approximately Milepost 128 of the Sterling Highway. The beginning of the transmission line from the G. Oskoloff Pad occurs at the intersection of the Unit Boundary for the Gas Lease and the ADOT/PF ROW. See Table 1.

4. Point of Termination:

The transmission line ends at the following distribution points from the KKPL (See Table 1): At the flange upstream of the flow meter in the Marathon 400 Master Meter Building; at the flange upstream of the flow meter in the APC 500 Master Meter Building; and at the flange upstream of the flow metering stations for the transfer of custody from the KKPL to each of the APC distribution points along the route.

5. Total proposed length (miles and kilometers):

The proposed length of the pipeline is approximately 32 miles/51 kilometers (km).

6. Total length proposed to cross state lands (miles and kilometers):

Type	Miles	Km
Lands affected by Public Land Order right-of-way	30	49
Section Line	0.7	1.2
Total	30.7	50.2

- 7. Attach a map or plat showing the proposed alignment of the centerline of the pipeline right-of-way, and indicate the areas of state upland ownership throughout the length of the proposed right-of-way.**

The preliminary route and maps (Figures 3 and 4) show the proposed route of the mainline and the pads. The location of State, Borough, Native, and private lands are also shown. During the fall of 2001/winter of 2002 surveying and field proofing of the alignment was conducted. There is a possibility that, due to field conditions, the final pipeline route may vary slightly from the route proposed in this application.

Pipeline route selection was affected by several factors including avoidance of natural and man-made obstacles, land ownership and land interests, river and stream crossings, and cost. Resources such as aerial photography, satellite imagery, USGS maps, Kenai Peninsula Borough maps, airborne video, and on the ground inspections were used to evaluate alternative crossings and routes. Roads, highways, and existing rights-of-way were utilized extensively to reduce the amount of private lands impacted by the pipeline.

- 8. Proposed crossings of streams and other bodies of water. (For each crossing indicate the width and depth of the stream or water body.)**

Table 2 lists river and stream crossings along the proposed pipeline route.

- 9. Attach a map or plat showing the proposed alignment of the centerline of the pipeline right-of-way where it crosses the beds of streams or other bodies of water.**

The location of proposed stream water and water crossings are identified on the Preliminary Route Maps (Figures 3 and 4).

- 10. Width of the proposed temporary right-of-way required for construction for each segment of the pipeline route on state lands.**

A 60-foot wide right-of-way will be required to efficiently construct the pipeline. For directional drilling of rivers or creeks, an area of 100 feet wide by 300 feet long on each side of the river or stream will be required to accommodate the directional drilling equipment.

- 11. Size and location of any sites, in addition to the proposed right-of-way, requested on a temporary basis during construction.**

Fresh water will be required for horizontal directional drilling (HDD) of river crossings, and hydro-testing the pipeline. Water will be obtained from nearby rivers and streams. Temporary Water Use Permits will be obtained as required. Potential water sources are listed in Table 3.

Due to the topography at Milepost 2.4 of the Kalifonsky Beach Road, an additional 60 feet of construction ROW will be required on state land outside of the ADOT/PF ROW for a length of 2,693 feet.

12. Width of the proposed right-of-way required for operating the completed pipeline for each segment of the pipeline route on state lands.

The permanent operating right-of-way will be 20 feet wide or less.

13. Size and location of any sites, in addition to the proposed pipeline right-of-way, requested for the operation of the completed pipeline.

No additional sites required for operation of the pipeline.

14. Legal description of state lands within the proposed pipeline right-of-way that are reserved or committed to any purpose. (For each tract of such state lands, state the purpose to which it is reserved or committed.)

The proposed pipeline will be constructed in State Department of Transportation and Public Facilities' Right-of-Ways. The right-of-way crosses a portion of the Johnson Lake State Recreation Area (Township 3 North, Range 11 West, Section 31, Seward Meridian). However, if pipeline construction is on the north side of the right-of-way, it will not be within the Johnson Lake State Recreation Area.

Part II – Project Description

15. Substance(s) to be transported:

Natural Gas

16. Size, engineering and design characteristics and amount of each type of pipe to be used:

Table 1 summarizes the proposed diameter for each pipe segment based on the currently anticipated production rates. The pipeline diameter, wall thickness, and yield strength will be designed in accordance with 49 CFR, Part 192—Transportation of Natural and Other Gas by Pipeline, and meet stress criteria per the requirements of ASME B31.8, for a specified maximum allowable operating pressure (MAOP) of 1480 psig. All valves and fittings will be rated ANSI Class 600 or higher.

17. Size, number, and location of pumping, compressing, heating, or refrigeration stations:

None.

18. Transportation capacity of the proposed pipeline:

The transportation capacity of the proposed pipeline is approximately 444 million standard cubic feet per day (MMSCD) of natural gas with a MAOP of 1480 psig.

19. Estimated life of the pipeline:

The pipeline system is designed for operation and maintenance under USDOT standards and under the standards of a prudent operator. Based on these standards the expected operational life is greater than 100 years.

20. Planned temperature at which each substance will be transported and whether it will be heated or refrigerated to maintain the temperature.

Gas will flow from the wells in the range of 30° to 90°F. Local process equipment will heat the gas during treatment. The gas is expected to approach ambient ground temperature a short distance from the well sites. Temperature controls will not be used.

21. The pipeline will be (check as appropriate):

_____ **Supported over the surface along its entire length**

_____ **On the surface along its entire length**

_____ **Partially buried along its entire length**

 X **Completely buried along its entire length**

_____ **None of the above (If this is checked, attach a map showing which portions of the pipeline are planned to be over the surface, on the surface, partially buried and wholly buried.)**

22. Describe the methods to be employed for partially or completely burying any portion.

For river crossings, three construction techniques have been considered, including 1) horizontal directional drilling (HDD), 2) conventional open cut trenching and burial, and 3) dam and pump. These techniques are discussed in more detail in the answer to Question No. 24.

Unpaved driveways and minor roads will be open cut construction. Larger paved roads and highways such as Kalifonsky Beach Road and the Sterling Highway

may be bored if conditions favor that type of construction or as allowed by permitting constraints. If not, they will be constructed by open cut.

The pipeline, other than the crossings described above, will be constructed utilizing normal open trenching and backfilling pipeline construction methods.

23. Describe any bridges, trestles, other structures or berms for the support of the proposed pipeline.

No bridges or trestles will be used for support of the proposed pipeline.

24. Describe the proposed method for all stream crossings and crossings of other bodies of water.

It is proposed to use one of the following three construction methods for stream crossings and crossing of other bodies of waters: (1) horizontal directional drilling, (2) normal open cut trenching and backfill, and (3) dam and pump. Figures 6, 7, and 8 depict the typical method for the three proposed methods for crossing streams. All minor creeks will be crossed using open cut excavation. Table 2 indicates the streams to be crossed and the proposed construction technique.

The pipeline will cross numerous wetland areas that are not named by USGS or listed above. In such cases, normal open cut trenching and backfill will be used in accordance with procedures approved by the Corp of Engineers under the Section 404 permit. Figures 8 and 12 illustrate typical wetland trench details.

Four types of construction techniques to negate buoyancy involve concrete coated pipe, anchors, set/bolt-on weights or the weight of the pipe. In regards to quality construction and environmental safety, the concrete coated pipe is the least susceptible to damage prior to and after construction. The anchors or set/bolt-on-weights anti-buoyancy techniques pose more maintenance concerns during and after construction. Specifically, the higher possibility of damage to the outer pipe coating. However, if care is taken during construction and provisions are made to properly protect the coating after construction either anchors or set/bolt-on-weights are acceptable.

25. Describe the proposed methods for grades, cuts, or fills.

The land surface over the completed pipeline will be graded to match and blend into existing grades, and to promote revegetation to limit erosion potential. Cuts will be made using conventional methods; generally backhoe excavation, however machine trenchers may be used along some portions of the alignment. Excavation spoils will be used as backfill and will provide a minimum cover of 36-inches over the pipeline.

26. Discuss planned facilities for spill or leak prevention and containment.

Leak prevention is an integral part of the Kenai-Kachemak Pipeline design. Design aspects related to leak detection include assurance of overall pipeline integrity and will comply with 49 CFR 192. Leak detection monitoring will be conducted in accordance with 49 CFR 192.

The pipeline will be designed and constructed to allow passage of internal inspection devices, in accordance with 49 CFR 192.150.

Manual block and blowdown valves will be installed, every 8 miles and at ends of pipe segments; to facilitate isolation of damaged sections in the event of an accident or natural disaster. The proposed block valves locations based on preliminary analysis are shown Figures 3 and 4.

Sorbent material in sufficient quantity to handle operational spills will be on hand at all times in the event of oil, fuel, or other hazardous material spill. Spills of this nature will be reported and cleaned up. Impermeable berms and basins capable of retaining 110 percent of storage capacity plus 12 inches of free board will be provided for all aboveground storage of petroleum or petroleum products to minimize the potential for un-contained spills or leaks.

27. Proposed access roads, airstrips, heliports, float plane facilities, communication facilities, storage sites for equipment and materials, material sites, and material disposal sites, whether planned for construction, operation or maintenance support:

Construction crews will use existing roads and the 60-foot construction work area to access the project. No new roads permanent or temporary will be constructed on state land. No permanent access roads are needed for pipeline operation or maintenance. The permanent pipeline right-of-way will provide adequate access for operations and maintenance activities.

The Kenai Kachemak Pipeline Project will not develop new areas for access roads, airstrips, heliports, floatplane access, equipment/material storage sites, borrow material or for material disposal. Instead the project will use existing permitted, private or commercial facilities on the Kenai Peninsula to support the project. Examples of existing facilities include:

- Kenai Peninsula Borough Landfill
- Port of Homer
- Port of Seward

28. Size, number, approximate location and planned duration of field camps:

No field camps will be constructed on state land for this project. Pipeline construction workers will be housed in existing facilities in the Kenai Peninsula Borough or in field camps on private land. Such field camps will meet all regulatory requirements.

29. Size, number, and approximate location of housing for personnel operating or maintaining the pipeline:

The pipeline will be operated and maintained by operators resident to the State of Alaska. If needed, workers will be housed in existing facilities in the Kenai Peninsula Borough.

30. Size, number, and approximate location of health care facilities:

Existing emergency medical facilities located in the Kenai Peninsula Borough are available for this project. The construction contractor will provide first aid at each work site adequate for handling minor medical emergencies.

31. Approximate number of persons to be employed during construction:

The peak construction work force is estimated at approximately 150 personnel.

32. Approximate number of persons to be employed to operate and maintain the pipeline:

Operation and maintenance of the pipeline will require the equivalent of 1 full time employee. Personnel will share responsibilities that include routine operation and maintenance, initial emergency response, and monitoring of the metering units and the pipeline itself. Repairs and special maintenance will be staffed according to the requirements of that specific job.

33. Planned commencement date for construction:

September, 2002

34. Estimated construction time:

15 Months

35. Planned commencement date for operations:

November, 2003

36. Estimated cost of materials:

\$ 5,000,000

37. Estimated cost of construction and installation:

\$ 15,000,000

38. Estimated annual cost for operations and maintenance:

\$ 300,000

Part III – Availability of Interconnections, Terminal Facilities, and Storage Facilities

39. Describe how the proposed pipeline will connect with planned field gathering systems, if any.

The main line will connect to the G. Oskoloff pad and provide tie-ins for future potential lines from current exploration sites. The KKPL project process flow diagram is included as Figure 5.

40. Discuss the technical and economic feasibility of providing connections with other field gathering systems at intermediate points along the proposed pipeline.

The pipeline will be designed and built to accept additional gas at intermediate points along the pipeline. Proposed connections along the pipeline will be evaluated on a case-by-case basis. The principal factors to be considered in determining technical and economic feasibility of intermediate connections include the following:

- Location of the proposed connections;
- Rate, continuity, and control of flow into and out of the pipeline;
- Adequacy of volume and quality of gas to be transported to support the extra investment and operating expenses required for the new movement including receiving and delivery facilities and modifications to the existing system;
- Relevant state, federal, and local regulations;
- Ownership and lease negotiations;
- Operatorship and custody transfer protocol; and
- Tariff rates.

41. Discuss the technical and economic feasibility of providing connections or interchanges with other pipelines at intermediate points along the proposed pipeline.

The pipeline will connect to two existing pipelines at its northern terminus. North Star Energy has requested access to the pipeline from its North Fork Prospect.

This request is currently being evaluated for its economic affect on the KKPL project.

42. Describe the location, area and capacity of proposed tank farms or other storage facilities.

No tank farms or other facilities are planned for storage in conjunction with the KKPL Project.

43. Provide locations of and describe any terminal delivery facility of the proposed pipeline.

No terminal facilities are planned for this project.

44. Discuss the technical and economic feasibility of providing delivery facilities at intermediate points along the proposed pipeline.

Several of the factors set forth in Response #40 are applicable to this question. If such delivery is technically feasible, economic feasibility must be considered and will depend on a comparison of the investment, if any, required to accommodate the particular delivery and the tariff revenue generated by the transportation and delivery of such gas.

It is planned where economically feasible, that ENSTAR Natural Gas Company will construct, own and operate distribution systems that will bring future gas service to the vicinity of the KKPL.

Part IV – Safeguards for Persons, Property, the Public and the Environment

45. Describe your plans to detect and abate any condition possibly arising from the construction, operation, maintenance and termination of all or part of the proposed pipeline that may cause or threaten to cause a hazard to the safety of workers on the pipeline project.

For this project, a comprehensive safety program will be implemented. All safety policies and procedures adopted for the project will apply to contractors and subcontractors as well as the KKPL LCC personnel during both construction and pipeline operations. Violations of safety standards will be grounds for removal from the project and/or termination. Safety awareness, training programs, precautionary measures, and response actions will be detailed in a project safety manual, and will include the following:

Training: All personnel involved with construction, maintenance and operations will be required to undergo a comprehensive training program developed

specifically for this project. The program may include topics such as HAZWOPER measures; safe vehicle and equipment operating practices; interaction / wildlife disturbance; health concerns; gas and hazardous material spill prevention and response measures; the KKPL LLC policies regarding safety; and applicable state and federal laws.

Awareness: Throughout construction, maintenance and operations measures will be taken to keep all employees aware of the need to maintain high standards with regard to safety. These measures will include regular safety meetings; daily safety briefings; and clear notice of any hazards that are detected, e.g., unsafe driving conditions and other appropriate safety concerns.

Monitoring: Compliance by the KKPL LLC and contractor personnel with project safety policies will be continually monitored. A safety officer will be assigned to the project to assist in the monitoring process and coordinate and disseminate information. Other monitoring activities will include drug testing of personnel; technical safety audits of contractor and subcontractor operations; and a comprehensive system for reporting and tracking incidents as mandated by company, state and federal policies.

Termination of pipeline operations will entail capping and abandoning the pipeline in place. The line will be cleaned and purged with an inert gas and plugged with welded caps.

46. Describe your plans to detect and abate any condition possibly arising from the construction, operation, maintenance or termination of all or any part of the proposed pipeline that may cause or threaten to cause a hazard to the public health and safety.

Established safe design and construction practices combined with a strong quality control and quality assurance program will ensure the health and safety of the public and project associated personnel during construction of the pipeline. The KKPL LLC, their contractors and subcontractors will observe and comply with all applicable federal, state and local laws and regulations related to public health and safety, and environmental safety, including federal pipeline safety regulations included in 49 CFR Parts 190, 191, and 192. These federal regulations provide stringent standards for pipe materials, pipe design, components, corrosion protection, testing, operation and maintenance, safety and reporting. Priority will be placed on measures that will prevent hazardous situations from arising as well as detection and abatement measures.

A primary safety concern for the Kenai-Kachemak Pipeline will be the inhabitants of the Kenai Peninsula Borough. Our primary focus for this project is that specific safeguards be implemented to protect local residents and other persons residing in or traveling through the project area. These measures include the following:

Construction

Prevention: A priority will be placed on eliminating or limiting opportunities for interaction between the public and construction activities. A public meeting, to inform area residents of proposed construction and associated safety concerns, will be held before the start of construction. A special concern will be those project areas crossing the Sterling Highway and other public roads. To the extent practical, construction will be scheduled to minimize interference with the heavy tourist traffic prevalent during the summer months. Project traffic will be cautioned of the possible presence of the public and the need to be cautious. Where practicable, project traffic will be segregated from public traffic. In the vicinity of construction activity, the right-of-way will be marked and all activities confined to approved working areas. Wastes will be strictly controlled and removed from construction areas for proper disposal.

Detection/Abatement: Daily monitoring and communication will be the primary means for detecting any situations that may endanger the public or environment during construction of the pipeline. Traffic on the roads will be continually monitored. Abatement measures may include strict control of non-project traffic in the project areas. Other interventions include heightened efforts to inform the public of the presence of the construction activities and traffic, and the need to be aware of and prepared for potential risks.

Operation/Maintenance

Prevention: The prevention or avoidance of situations involving the pipeline which could endanger the public will be a priority not only during operations, but from the onset of design and through construction. Pipeline integrity is of utmost concern during the design process, and is essentially the basis for virtually all design elements including pipe stress, insulation, valving, leak detection and shutdown systems. Stringent inspection and monitoring programs will be implemented during operation to identify problem areas.

Detection/Abatement: Key elements for protection of the public and environment during the operating phases of the project include installation of valves at strategic locations to limit gas releases; a comprehensive emergency response plan to limit impacts from a gas leak; and a detailed pipeline inspection program.

Termination

Safeguards for the public during termination activities will be the same as those discussed above for construction of the pipeline.

47. Describe your plans to detect and abate any condition possibly arising from the construction, operation, maintenance or termination of all or any part of the proposed pipeline that may cause or threaten to cause serious and irreparable harm or damages to public or private property.

The KKPL LLC will implement a comprehensive program to ensure that construction, operation, and maintenance of the Kenai-Kachemak Pipeline does not harm or damage public or private property within or adjacent to the pipeline corridor. The first step of this program is the project planning and impact assessment process. During the final design phase of the project, the KKPL LLC will take steps to ensure pipeline system integrity and to prevent leaks, establish procedures to monitor performance to ensure continued integrity, develop a plan for response, and ensure the construction area is rehabilitated in accordance with permit conditions.

A major component of the program will be to ensure compliance with applicable pipeline design and operation standards, including:

Federal and State Regulations

- 49 CFR Part 190, “Pipeline Safety Programs and Rulemaking Procedures”
- 49 CFR Part 191, “Transportation of Natural and Other Gas by Pipeline; Annual Reports, Incident Reports, and Safety-related Condition Reports”
- 49 CFR Part 192, “Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards”

Project design incorporates measures to ensure pipe integrity (see Response #16). In addition, design for buried river crossings incorporates measures to maintain normal flow regimes and to avoid habitat damage (see Response #24).

The proposed construction technique is specifically designed to minimize impacts to public, and private lands and the environment. Work in sensitive habitat will be conducted to minimize or avoid damage to the underlying vegetation and inclusive wildlife. Design and construction measures designed to prevent or repair any damages to project area vegetation are described in Response #48.

After construction, a comprehensive pipeline inspection and maintenance program will be implemented. The goals of this program will ensure pipeline operating integrity and safety, and also prevent, identify, and respond to any situations that could cause significant damage to the environment. This ongoing pipeline inspection and maintenance program will address potential adverse habitat or water-quality impacts resulting from unplanned events with pipeline performance.

Many of the measures and precautions pertaining to safeguarding the health and safety of the public (see response to #46) will also protect property located adjacent to the project.

48. Describe your plans to detect and abate any condition possibly arising from the construction, operation, maintenance or termination of all or any part of the proposed pipeline that may cause or threaten to cause serious and irreparable harm or damages to vegetation or timber.

Compaction, impoundments, sedimentation, and contamination may cause indirect impacts resulting from construction activities. Generally, damage from construction will be temporary, and most types of vegetation will recover in two to three years. A stormwater prevention plan will be designed and implemented for the project.

Although spill prevention will be a key aspect in all construction, operations and maintenance activities, fuel, lubricants or other fluids from construction equipment and vehicles would be relatively small. Spills will be reported and promptly cleaned up. Visual monitoring will be used to detect other construction, operations and maintenance activities that may adversely impact vegetation. Sorbent material in sufficient quantity to handle operational spills will be on hand at all times in the event of an oil, fuel, or other hazardous material spill.

During operation, the pipeline route will be visually inspected to detect and identify impacts. Visual methods will be especially effective since the pipeline will be adjacent to roads. Typically, visual monitoring would occur fairly regularly during operations.

Termination activities will be performed in a way to minimize disturbance to vegetation. Visual monitoring would be used to assess any vegetation affected by these activities, and revegetating disturbed areas would abate additional damage.

49. Describe your plans to detect and abate any condition possibly arising from the construction, operation, maintenance and termination of all or any part of the proposed pipeline that may cause or threaten to cause serious and irreparable harm or damages to fish or other wildlife or to their habitats.

Construction activities result in noise, vibrations, equipment movement and human presence, all of which may disturb wildlife in several ways:

- 1) Moose may be present in the area during construction and their travel patterns may be altered to avoid the immediate construction zone (this would be a short-term impact);
- 2) Animals may be attracted by food to construction sites creating the potential for injury to animals and humans;
- 3) A slight potential exists for animals to be killed by collisions with construction equipment and vehicles; and

- 4) Eagle nests will need to be located to avoid any impacts during construction.

Visual monitoring will be used to detect any construction activities that may adversely impact fish or wildlife. Methods of abatement will include usage of covered garbage containers; following standard procedures for waste handling; controlling sediments on site; and minimizing the extent of disturbance. A quality assurance program will be implemented during construction and testing to ensure the integrity of the pipelines.

Fish and other wildlife species will not be adversely impacted for river crossings installed by HDD. Drill cuttings and fluids will be collected and hauled to an approved disposal location. Additionally, the HDD process requires that the transitions be located away from sensitive river banks and channels, which will be virtually undisturbed by construction.

Operation of the pipeline is not expected to result in any wildlife behavioral changes, or change habitat use. Wildlife could be disturbed during pipeline maintenance activities, but these impacts would be short-term and not generally significant.

Impacts from pipeline termination activities would be short-term and similar to those described during construction. Abandoning the pipeline in place will minimize disturbance to fish and wildlife.

50. Describe your plans for restoring areas of vegetation or timber damaged or harmed directly or indirectly by the construction, operation, maintenance or termination of all or any part of the proposed pipeline.

For construction of the pipeline an area as wide as 60-feet will need to be cleared of timber, brush, and vegetation. Once construction is complete, any damaged areas will be seeded. The cleared area will need to be maintained for pipeline maintenance, operation, and leak detection. However, a majority of the pipeline will be constructed in existing, cleared and developed transportation corridors. Contours will be restored close to their pre-existing condition.

51. Describe your plans for abating erosion and restoring areas eroded as a direct or indirect result of the construction, operation, maintenance or termination of all or any part of the proposed pipeline.

As dictated by the NPDES Stormwater permit, construction activities will be controlled so as to abate erosion. If any river crossings are made via open cut construction, surface waters will be controlled to avoid erosion. The banks near the open cut will be protected with suitable protection, such as sandbags.

The majority of the alignment is rather flat. In those areas where local longitudinal or transverse slopes are steep, measures will be taken to control erosion. These measures will include use of transverse levees, drop structures, slope flattening, drainage channels, geosynthetics, or straw bales to control

surface/subsurface flow, and to protect areas prone to erosion. Sedimentation from erosion areas will be controlled with straw bales or silt fences.

Areas that are eroded during construction will be restored as near as possible to their original configuration, then revegetated or armored in accordance with agency and permit requirements.

If streambank erosion occurs as a direct result of construction, operation, maintenance or termination of the pipeline, the banks will be restored and protected in accordance with agency guidance and permit stipulations. The streams to be crossed by the Kenai-Kachemak Pipeline in buried mode are generally small and are not expected to be aggressively erosive. Thus, requirements for restoration and protective measures are expected to be less robust, and environmentally friendly measures will likely be feasible.

Erosion during the operations phase is not expected to be a significant issue. If erosion is visually detected it will be repaired using the appropriate method described above. Practices to abate and restore erosion during maintenance and operations will be as described above.

52. Describe your plans for quality control and your procedures for inspection and testing the pipeline, both during and after construction.

The KKPL LLC maintain a comprehensive quality assurance/quality control (QA/QC) program that will be the basis of maintaining quality during construction and throughout the life of the project. Emphasis on achieving a high level of quality will begin during design and continue during and after construction.

A comprehensive QA/QC program will be implemented during construction. It will include the following elements:

Procedures – Detailed procedures will be established for critical construction elements such as welding, coating, and pipeline pressure testing. The establishment of these procedures, and training of personnel in their use, will eliminate most defects by maximizing the probability that the job will be done correctly in the first place. Also, only qualified and experienced personnel will be allowed to perform critical tasks.

Inspection – A comprehensive program for control and inspection of materials and workmanship will be instituted. Strict control of materials will begin with inspection of materials at their place of manufacture and include requirements for submittal of inspection certification and re-inspection upon arrival on site. All pipeline installation work, including welding and coating, will be subject to rigorous inspection. All welds will be inspected using non-destructive methods (e.g., x-ray or ultrasonic), and the pipeline will be hydro-statically pressure tested prior to placing the line in service. All inspectors will be experienced in their field, trained in adopted construction and testing procedures, and given the

authority to take the actions necessary, including shutdown of construction work, to ensure that quality is maintained.

Monitoring – A comprehensive system for monitoring quality will also be implemented. It will include regular measurement and reporting of critical quality indicators, e.g., number of failed welds. It will also include regular quality assurance reviews by the KKPL LLC management, e.g., audits of inspection and reporting systems, to ensure that the adopted quality programs are being followed.

All contractors and subcontractors will be required to conform to the KKPL LLC QA/QC policies and, where necessary, develop and submit their own quality control programs for review and approval by the KKPL LLC.

The QA/QC program adopted for operation of the pipeline will include the following:

Internal Inspection – The pipeline will be designed and constructed to allow for the passage of cleaning and internal inspection devices.

External Inspection – External inspection of the pipeline right-of-way will include regular visual observations. The cathodic protection system will be tested in accordance with the parameters described in 49 CFR Part 192.

53. Describe your plans to ensure compliance by your contractors and subcontractors with the safeguards and stipulations of the right-of-way lease, if issued.

The KKPL LLC's plans for ensuring compliance by contractors and subcontractors with the conditions of the lease is essentially two-pronged – extension of lease conditions, and monitoring – as described below:

Extension of Lease Conditions – The lease safeguards and stipulations will be included and highlighted in all the KKPL LLC-direct contracts, as will a clause requiring that these same provisions be included in any subsequent subcontracts. There will also be provisions requiring that all contractor and subcontractor personnel receive appropriate training related to these safeguards and stipulations, e.g., those regarding protection of the environment and wildlife. Failure to comply with these provisions will be grounds for termination of personnel and/or the contract.

Monitoring – Contractor and subcontractor compliance with these and other contract terms will be monitored through site visits, and review of incident and inspection reports. Flagrant or repeated violation of these lease conditions will be grounds for severe penalties or termination.

Part V – Special Safeguards for Natives and Others Subsisting on the Biotic Resources of the General Area of the Proposed Right-of-Way

54. Describe your plans and procedures to protect the interests of individuals living in the general area of the proposed right-of-way who rely on fish, wildlife and biotic resources of the area for subsistence purposes.

Since the gas line will be buried in existing rights-of-way, there should be little impact to subsistence resources. The only areas that may be of concern are the river and stream crossings where subsistence fishing occurs. Design criteria and construction and operation procedures have been designed to minimize the negative impact to individuals using the area for subsistence purposes (see Responses #46 – 51). These measures, which are also designed to protect the overall environment, include scheduling to avoid wildlife disturbance, route selection and design to minimize and avoid adverse impacts to the environment.

Part VI – Financial Information

55. Describe the probable financing requirements for the proposed pipeline.

In-house financing will fund the project.

56. Attach an annual financial statement and balance sheet for each applicant, prepared in accordance with generally accepted accounting principles for each of the applicant's three fiscal years immediately proceeding the date of this application. A firm of reputable and independent Certified Public Accountants must certify the financial statement.

Financial information for the two parent companies of the KKPL LLC has already been submitted to the State Pipeline Coordinator's Office.

Part VII – Other Information

57. Name and address of the proposed general contractor(s) for constructing the pipeline:

The General Contractor will be selected on a competitive bid process.

58. Name and address of the proposed operator of the pipeline:

NORSTAR Pipeline Company (A Subsidiary of Alaska Pipeline Company)

C/O ENSTAR Natural Gas Company

P.O. Box 190288

Anchorage, Alaska 99519-0288

59. Other information you believe may aid in the consideration of this application.